

indebted for help in the field, background information about the island and for checking some of the details in this paper.

REFERENCES

- BUTLER, W. H. 1970. A Summary of the Vertebrate Fauna of Barrow Island. *West. Aust. Naturalist*, 11 (7): 149-160.
- SUIJDENDORP, H. 1969. Deferred Grazing Improves Soft Spinifex Association. *W.A. Dept. of Agriculture*, Bull. 3699.
- WATSON, J. A. L. 1969. *Schedorlünotermes derosus*, a Harvester Termite in Northern Australia. *Bulletin de L'Union Internationale pour l'Etude des Insectes Sociaux*, 16 (3):173-178.
- BURBIDGE, A. A., and A. R. MAIN, 1969. Report on a Visit of Inspection to Barrow Island, November, 1969. *Dept. of Fisheries and Fauna W.A.*, Report No. 8.

OBSERVATIONS ON THE HEAVY FRUITING OF QUANDONG TREES DURING THE DROUGHT YEAR OF 1969

By Mrs. M. B. MILLS, Merredin

One morning early in October, 1969, a friend and I took a trip into the bush about 11 miles north of Merredin, in search of the "cancer plant", *Scaevola spinescens*, which grows in certain places in the district. After searching in the bush for a short time our attention was attracted to a group of Quandong trees, *Santalum acuminatum*, which were heavily in fruit. This is the usual fruiting period; the fruits usually ripen in October and the fruiting is finished by early November. What surprised us both, however, was to see the Quandong trees bearing so heavily. Neither of us had seen anything like it previously, and what added to our surprise was that the season had been extremely dry, a drought year.

We examined the trees, a group of about 15. The trees were nicely formed and none was old. All looked healthy.

A few days later I returned to this place again and gathered a 3lb. powdered milk tin full of Quandongs. The fruit was large and fleshy and nice tasting. Later, when I cleaned the Quandongs to make jam it was amazing to find the fruit was very clean and white inside and free from grubs or dirt. Out of the whole tin of fruit I had to discard only one Quandong which had been bruised slightly and blackened.

I wondered why this batch of fruit should be so clean as usually there are quite a lot of grubs and dirt in them. I thought at first that aerial spraying of crops, carried on in recent years in the neighbourhood, might have had some bearing on the absence of fruit-infesting grubs. However, in reply to an inquiry, Mr. R. D. Royce, Curator of the Western Australian Herbarium, states that entomologists are very sceptical about the control of these insects by aerial spraying. Furthermore most of the spray used would be weedicide; very little, if any, insecticide is applied from aeroplanes in the Merredin district.

In February, 1970, Cyclone Ingrid broke the distressingly long dry spell, which had begun when rains tapered off in the spring of 1968. Now flooding rains came and Merredin registered 350 points. A good season followed with additional unusually heavy flooding rains in late September, 1970. Merredin registered 215 points in a few days, with follow-up showers.

During October, 1970, my friends and I again made a trip into the bush to gather Quandong fruit. But the fruiting of the Quandong trees this season, throughout the district, was very erratic. Some trees during early October had fruited and all the fruit had fallen to the ground. Other trees were bearing, with fruit in varying stages of ripeness, some partly ripe, others large and still green. There were blossoms on some trees, as well as small green fruit forming. Throughout November ripe Quandongs were seen on trees until early December.

This erratic flowering and fruiting were evident during many miles of travelling around the Merredin district.

On 7th April, 1971, I visited the area first mentioned and examined the patch of Quandong trees. The fruit had set, and very heavily; some of the spikelets had as many as six small green fruits on a spike. Other spikelets carried three, four or five fruits to a spike. The Quandong trees were growing among mature eucalypt trees and scattered scrub on a red, rather gravelly soil at the bottom of a steep incline. Thus they would receive a good flow of water from rain.

A short distance away was another small group of Quandong trees. Over the past few years of observing them I have noted that their fruit yield was not at all heavy. At present there was only a sparse fruiting, about one per cent of that of the first group, the spikelets carrying only one or two fruits. These trees were growing among native pines, thick scrubby growth and some eucalypts, on a slight incline but the soil was not red at the surface. The foliage of the trees did not appear so healthy or so robust as in the first group. These trees may have been older.

A third group of Quandong trees, about four miles from the first group, consisted of about 30 young trees which had fruited heavily in October, 1970, bearing good, clean fruit. On my visit on April 7, 1971, I found that despite the previous year's fruiting, fruit had set again, not so heavily, but still the trees were quite well covered. Also the fruiting seemed normal; there were no blossoms with the fruit as in the previous year. None of the Quandong trees inspected anywhere in this district in April, 1971, carried blossoms with the developing fruit.

I had always understood, and have been told by bushmen, that Quandong trees bear fruit only every other year. The fruiting of the third group of Quandong trees just mentioned, successively in two seasons, may possibly have been the result of heavy flood rains in March (1971) with Cyclone Mavis, Merredin registering 392 points. But this can only be a speculation. The fluctuations in fruiting of the Quandong, in relation to seasonal weather conditions, as Mr. Royce has reminded me, must be a "second-hand" sort of response as the Quandong, being a parasite, is in a way independent of the season except through the host plants.

BIRDS SEEN AT PELICAN POINT, 1966-1968

By R. JOB

From November 26th, 1966 visits were paid at fairly frequent intervals to Pelican Point, Swan River Estuary, Nedlands, up to November 2nd, 1968. In 1957 the Point was visited in January, March, July, September, October and November, and in the following year in February, May, June, July and September onwards.

The following is a check list of species seen. Species found on the landward area immediately adjacent to the Point are included.

Hoary-headed Grebe, *Podiceps poliocephalus*.

1 on the river to the west of the Point July 22nd, 1967.

Australian Pelican, *Pelecanus conspicillatus*

Recorded on most visits. Highest numbers recorded are as follows:— Nov. 26th, 1966 (10); Dec. 6th, 1966 (15); Dec. 7th, 1966 (20); Sept. 23rd, 1967 (9); Oct. 31st, 1967 (13); July 5th, 1968 (12); Oct. 8th, 1968 (11); Oct. 18th (10); Oct. 31st and Nov. 2nd, 1968 (12).

Black Cormorant, *Phalacrocorax carbo*

Some present most months. Not recorded in March or July, 1967 or May and June, 1968. Highest number recorded was 22 on Oct. 18th, 1968, but most usually noted as under half a dozen individuals.

Little Black Cormorant, *Phalacrocorax sulcirostris*

Present throughout the year. Usually found in flocks. Largest flock, estimated at 300, on May 21st, 1968.